



INTUITIVE
SURGICAL

DA VINCI Xi SINGLE-SITE TECHNOLOGY
SOLUTIONS FOR SINGLE-INCISION SURGERY



INTUITIVE
SURGICAL

DA VINCI Xi® SINGLE-SITE® TECHNOLOGY

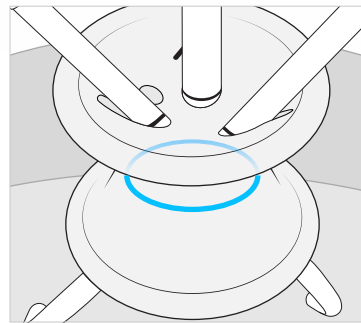
AT INTUITIVE SURGICAL,
WE STRIVE TO MAKE SURGERY
MORE EFFECTIVE, LESS INVASIVE, AND
EASIER ON SURGEONS, PATIENTS,
AND THEIR FAMILIES.

- **CANNULAS**

A curved design triangulates instruments internally and separates arms externally, maximizing range of motion and minimizing collisions.

- **PORT**

The 5-lumen port fits through a 25-mm incision and holds two *Single-Site* instruments, a 3D-HD endoscope, an insufflation channel, and a 5-10 mm assistant cannula.





da Vinci Surgery

• INSTRUMENTS

The semi-rigid design allows the instrument to pass through the curved cannula while providing rigidity to manipulate tissue.



The Wristed Needle Driver provides surgeons additional dexterity while suturing.

INSTRUMENT SUITE

- 5 mm Maryland Dissector
- 5 mm Hem-o-Lok® ML Clip Applier
- 5 mm Suction Irrigator
- 5 mm Cadiere Grasper
- 5 mm Curved Scissors
- 5 mm Fundus Grasper
- 5 mm Crocodile Grasper
- 5 mm Maryland Bipolar Forceps
- 5 mm Curved Needle Driver
- 5 mm Permanent Cautery Hook
- 5 mm Fenestrated Bipolar Forceps
- 5 mm Wristed Needle Driver

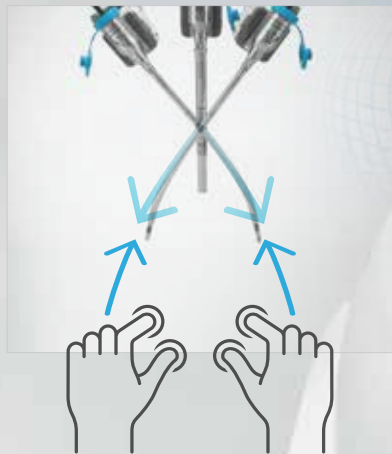
DA VINCI Xi. SINGLE-SITE® TECHNOLOGY

da Vinci Surgery

• SYSTEM

SOFTWARE

da Vinci System software re-configures the surgeon's hand controls so they experience intuitive movement when using *Single-Site* instruments.



REMOTE CENTER

Intuitive Surgical® remote center technology minimizes port-site movement and trauma at the incision site.

DA VINCI Xi. SINGLE-SITE® SETUP

FIVE-STEP SETUP

da Vinci Xi Single-Site setup follows the same principles used in *da Vinci Xi* multi-port setup while adding unique setup features to maximize the advantages of *Single-Site* technology.

THESE ENHANCEMENTS:

- Adjust the *da Vinci Xi* System to an appropriate starting position
- Facilitate reproducible setup
- Minimize external arm interferences
- Maximize range-of-motion

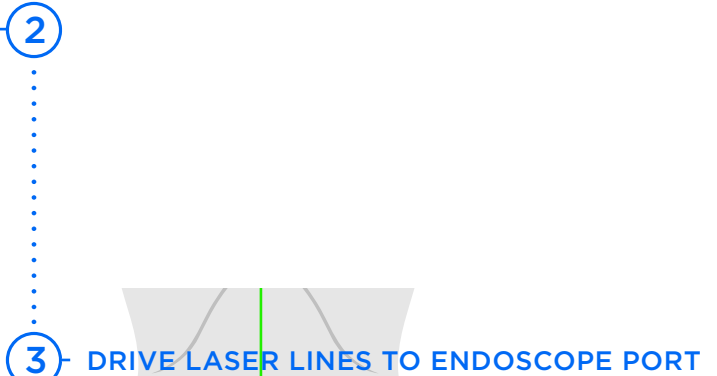
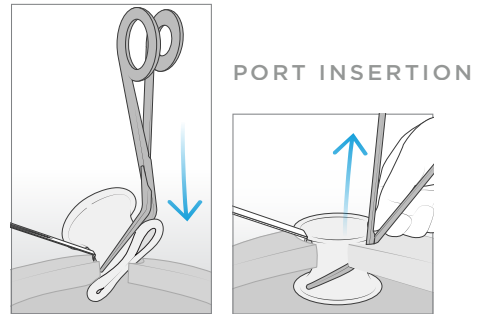
DEPLOY FOR DOCKING ②



PERFORM TARGETING ④



① SINGLE PORT PLACEMENT



③ DRIVE LASER LINES TO ENDOSCOPE PORT



⑤ INSERT CURVED CANNULAE AND PERFORM MANUAL ARM ADJUSTMENTS

DA VINCI Xi. SINGLE-SITE* TECHNOLOGY

FROM THE DA VINCI Si® SYSTEM TO THE DA VINCI Xi SYSTEM, AN EVOLUTION IN SINGLE-SITE SURGERY

da Vinci Si Single-Site technology became a prominent robotic single-port platform on the market. The *da Vinci Xi System* improves this platform with new technology, access, and usability.



- **IMPROVED OPTICS***

The *da Vinci Xi* 8 mm endoscope provides the surgeon a clearer view of the surgical field. *FireFly*® fluorescence imaging is integrated to highlight specific tissues such as vessels and bile ducts.

ADVANCES*

- Brighter image
- Higher resolution
- Longer endoscope
- Integrated *FireFly*® Fluorescence Imaging



- **EASIER SETUP***

A single-fin attachment system makes docking easier and faster. Specific *Single-Site* features like two-button clutching and a guided walkthrough improve OR team usability.

- Easier docking
- Two-button clutching
- Guided walkthrough



- **GREATER PATIENT ACCESS***

The boom-mounted architecture of the *da Vinci Xi* System provides docking from any angle and improves access around the patient.

The redesigned arms provide greater internal range of motion while improving patient access and minimizing external collisions.

- Dock from any angle
- Increased range of motion
- More space for patient-side assistant

*As compared to the *da Vinci Si* Surgical System

THE ADVANTAGES OF THE DA VINCI SURGICAL SYSTEM

- **IMMERSIVE 3D-HD DISPLAY**

da Vinci technology provides a stable, immersive, highly magnified 3D-HD view of the surgical field while providing the surgeon autonomous, independent control of the camera.



- **PRECISION**

Surgeon's hand movements are scaled, filtered, and seamlessly translated to the instrument tips for precise instrument control.

- **ERGONOMICS**

Multiple ergonomic adjustments provide comfort and reduce fatigue during surgical procedures.



- **INTUITIVE MOTION**

Instead of counter-intuitive control found in other MIS approaches, *da Vinci* instrument movements mimic the surgeon's hand movements.

- **VERSATILITY**

The *da Vinci* System provides multi-port and single-incision surgery on a single platform—this versatility enables robotic surgery across multiple surgical specialties.



IMPORTANT SAFETY INFORMATION

Serious complications may occur in any surgery, including *da Vinci*[®] Surgery, up to and including death. Examples of serious or life-threatening complications, which may require prolonged and/or unexpected hospitalization and/or reoperation, include but are not limited to one or more of the following: injury to tissues/organs, bleeding, infection and internal scarring that can cause long-lasting dysfunction/pain. Individual surgical results may vary.

Risks specific to minimally invasive surgery, including *da Vinci* Surgery, include but are not limited to, one or more of the following: temporary pain/nerve injury associated with positioning; a longer operative time, the need to convert to an open approach, or the need for additional or larger incision sites. Converting the procedure could result in a longer operative time, a longer time under anesthesia, and could lead to increased complications. Contraindications applicable to the use of conventional endoscopic instruments also apply to the use of all *da Vinci* instruments. You should discuss your surgical experience and review these and all risks with your patients, including the potential for human error and equipment failure. Physicians should review all available information. Clinical studies are available through the National Library of Medicine at www.ncbi.nlm.nih.gov/pubmed.

Be sure to read and understand all information in the applicable user manuals, including full cautions and warnings, before using *da Vinci* products. Failure to properly follow all instructions may lead to injury and result in improper functioning of the device. Training provided by Intuitive Surgical is limited to the use of its products and does not replace the necessary medical training and experience required to perform surgery. Procedure descriptions are developed with, reviewed and approved by independent surgeons. Other surgical techniques may be documented in publications available at the National Library of Medicine. For Important Safety Information, indications for use, risks, full cautions and warnings, please also refer to www.davincisurgery.com/safety and www.intuitivesurgical.com/safety. Unless otherwise noted, products featured are available for commercial distribution in the U.S. For availability outside the U.S., please check with your local representative or distributor.

It is the responsibility of the owner of the *da Vinci* Surgical System to properly train and supervise its personnel to ensure that the instruments and accessories are properly cleaned, disinfected and sterilized as required by the User's Manual. The *da Vinci* products should not be used in a clinical setting unless the institution has verified that these products are properly processed in accordance with the *da Vinci* System User's Manual.

The *da Vinci*[®] Fluorescence Imaging Vision System (*Firefly*[®] Fluorescence Imaging) is intended to provide real-time endoscopic visible and near-infrared fluorescence imaging. The *da Vinci* Fluorescence Imaging Vision System enables surgeons to perform minimally invasive surgery using standard endoscopic visible light as well as visual assessment of vessels, blood flow, and related tissue perfusion, and at least one of the major extra-hepatic bile ducts (cystic duct, common bile duct and common hepatic duct), using near infrared imaging.

Fluorescence imaging of biliary ducts with the *da Vinci* Fluorescence Imaging Vision System is intended for adjunctive use only, in conjunction with standard of care white light and when indicated, with intraoperative cholangiography. The device is not intended for standalone use for biliary duct visualization.

Intuitive's ICG packs are available for sale in the U.S. ONLY. Intuitive's ICG packs are cleared for commercial distribution in the U.S. for use in combination with the fluorescence-capable *da Vinci* vision system and *Firefly* integrated hardware. Intuitive-distributed ICG contains necessary directions for use of ICG with *Firefly* Fluorescence Imaging. Using generic ICG with *Firefly* Fluorescence Imaging is considered off-label and is not recommended. Anaphylactic deaths have been reported following ICG injection during cardiac catheterization. Total ICG dosage should not exceed 2 mg/kg per patient. Anaphylactic or urticarial reactions have been reported in patients with or without histories of allergy to iodides.

